This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a minor, municipal permit. The discharge results from the operation of a 0.010 MGD wastewater treatment plant. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et seq.

1.	Facility Name and Mailing Address:	Goose Creek Industrial Park WWTP P.O. Box 4000 Ashburn, VA 20146	SIC Code:	4952 WWTP
	Facility Location:	42217 Cochran Mill Road Leesburg, VA 20175	County:	Loudoun
	Facility Contact Name:	Dale Hammes General Manager	Telephone Number:	571-291-7700
2.	Permit No.:	VA0080993	Current Expiration Date:	14 November 2008
	Other VPDES Permits:	Not Applicable		
	Other Permits:	Not Applicable		
	E2/E3/E4 Status:	Not Applicable		
3.	Owner Name:	Loudoun County Sanitation Authority		
	Owner Contact/Title:	Todd Danielson Manager, Community Systems	Telephone Number:	571-291-7835
4.	Application Complete Date:	1 August 2008		
	Permit Drafted By:	Douglas Frasier	Date Drafted:	21 August 2008
	Draft Permit Reviewed By:	Alison Thompson	Date Reviewed:	8 September 2008
	Public Comment Period:	Start Date: 6 November 2008	End Date:	8 December 2008
5.	Receiving Waters Information:	See **Attachment 1** for the Flow Frequency Determination		
	Receiving Stream Name:	Sycolin Creek		
	Drainage Area at Outfall:	17.3 square miles	River Mile:	0.15
	Stream Basin:	Potomac River	Subbasin:	Lower Potomac River
	Section:	8	Stream Class:	III
	Special Standards:	PWS	Waterbody ID:	VAN-A08R
	7Q10 Low Flow:	0.06 MGD	7Q10 High Flow:	0.71 MGD
	1Q10 Low Flow:	0.05 MGD	1Q10 High Flow:	0.50 MGD
	Harmonic Mean Flow:	1.1 MGD	30Q5 Flow:	0.23 MGD
	303(d) Listed:	Yes	30Q10 Flow:	0.12 MGD
	TMDL Approved:	Yes	Date TMDL Approved:	1 May 2003 – bacteria 26 April 2004 – benthic

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

- ✓ State Water Control Law
- ✓ Clean Water Act
- ✓ VPDES Permit Regulation
- ✓ EPA NPDES Regulation
- ✓ EPA Guidelines
- ✓ Water Quality Standards
- ✓ Other: 1998 Regional Stream Model

7. Licensed Operator Requirements: Class IV

8. Reliability Class: Class I

9. Permit Characterization:

___	Private	✓	Effluent Limited	___	Possible Interstate Effect
___	Federal	✓	Water Quality Limited	___	Compliance Schedule Required
___	State	___	Toxics Monitoring Program Required	___	Interim Limits in Permit
✓	POTW	___	Pretreatment Program Required	___	Interim Limits in Other Document
✓	TMDL				

10. Wastewater Sources and Treatment Description:

The Goose Creek Industrial Park WWTP treats domestic wastewater flows from the surrounding industrial development that includes a lumberyard, recycling facility and numerous other enterprises. The prefabricated extended aeration plant is designed to treat 10,000 gpd, but normally treats about 1,500 gpd; discharge is intermittent (weekly to monthly). The lagoon is emptied in the late fall and discharge does not occur in the winter. Treatment consists of the following stages: preliminary, secondary, holding pond, chlorination/dechlorination and post aeration.

Preliminary Treatment

Influent from a collection system serving the Goose Creek Industrial Park enters the headworks via gravity where preliminary treatment consists of a comminutor and bar screen. The bar screen serves as the preliminary treatment backup when the comminutor is being serviced. Solids generated in the preliminary treatment process are disposed via sanitary landfill.

Secondary Treatment

The wastewater then enters the extended aeration basin, where longitudinal aerators operate via a timer (30 minutes on and 30 minutes off). Effluent from the aeration chamber then enters the clarifier. Sludge in the secondary clarifier is returned to the aeration basin when the aerators are operating. The return rate is based on settleability, mixed liquor suspended solids and sludge volume index testing. Remaining sludge is wasted to the aerated sludge holding tank.

Holding Pond

After treatment in the secondary clarifier, wastewater is directed to a 150,000 gallon bentonite clay lined pond in which settling and duckweed provide additional treatment. A grid system has been installed to keep duckweed evenly distributed. A wooden sled is used to harvest duckweed at least annually. The harvested duckweed is dewatered on site and is disposed via landfill.

Chlorination/Dechlorination/Post-Aeration

After pond treatment, the wastewater is aerated again in the chlorine contact tank. Disinfection and dechlorination are achieved using tablet feeder systems that dispense calcium hypochlorite and sodium bisulfite, respectively. Post aeration in the dechlorination chamber is turned on manually every time a discharge occurs. Sampling is conducted after the dechlorination chamber.

After all treatment, flow is measured at a 45° v-notch weir prior to shore-based discharge through an 8-inch diameter pipe (Outfall 001). The discharge is approximately 15 feet from the southeast fence of the treatment plant and approximately 20 feet upstream of the convergence of Sycolin Creek and Goose Creek. Discharge from the corrugated pipe flows to Sycolin Creek through a small rock-covered channel.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1
OUTFALL DESCRIPTION

Outfall Number	Discharge Sources	Treatment	Design Flow	Outfall Latitude and Longitude
001	Domestic Wastewater	See Item 10 above.	0.010 MGD	**39° 04' 21" N** **77° 31' 09" W**

See **Attachment 3** for topographic map.

11. Sludge Treatment and Disposal Methods:

Waste activated sludge is pumped from the secondary clarifier to an aerated sludge holding tank. As needed, the digested sludge is removed by a septic waste hauler and transported to the Broad Run Water Reclamation Facility (VA0091383) for further treatment and final disposal (typically 1 – 2 times per year).

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge:

TABLE 2
DISCHARGES, INTAKES & MONITORING STATIONS

ID / Permit Number	Description	Latitude / Longitude
1aGOO002.38	Ambient Monitoring Station	39° 05' 08" / 77° 30' 41"
VAG84016	Luck Stone Industrial Discharger – Outfall 001	39° 41' 55" / 77° 31' 10"
VAG84016	Luck Stone Industrial Discharger – Outfall 002	39° 04' 55" / 77° 31' 10"
1aSYC002.03	Ambient Monitoring Station	39° 03' 43" / 77° 32' 30"
0.2 (Tuscarora Creek)	Goose Creek Country Club – Intake	
VAG84601	Luck Stone, Leesburg Industrial Discharger – Outfall 001	39° 04' 00" / 77° 31' 10"
VAG84601	Luck Stone, Leesburg Industrial Discharger – Outfall 002	39° 04' 00" / 77° 31' 10"
	Confluence of Sycolin Creek and Goose Creek	39° 04' 12" / 77° 31' 08"
VA002666	Goose Creek WTP Industrial Discharger	39° 02' 58" / 77° 31' 21"
4.9 (Goose Creek)	Goose Creek WTP Intake/Impoundment	
VA0080933	Goose Creek Industrial Park WWTP	39° 04' 21" / 77° 31' 09"
1aSYC002.03	Ambient Monitoring Station	39° 03' 43" / 77° 32' 30"
VAG406015	Lanier Residence	Single Family Home Domestic Discharges
VAG406101	Smith Residence	
VAG406121	Krumwiede Residence	

13. Material Storage:

TABLE 3
MATERIAL STORAGE

Materials Description	Volume Stored	Spill / Stormwater Prevention Measures
Calcium hypochlorite	(1) 45 lb. bucket	Stored under roof; spills contained within process building
Sodium bisulfite	(1) 45 lb. bucket	
DPD Total Chlorine Reagent	50 pillows	
Hydrated Lime	40 lbs.	
Pollu-Treat C316 (Polymer)	5 lbs.	

14. Site Inspection: Performed by NRO staff on 30 October 2006. See **Attachment 4** for the Inspection Summary; the entire report can be found in the reissuance file.

15. Receiving Stream Water Quality and Water Quality Standards:

a). Ambient Water Quality Data

Sycolin Creek has not been monitored since 2000. The nearest downstream monitoring station is 1aGOO002.38, located on Goose Creek at the Route 7 bridge crossing, approximately 1.48 rivermiles downstream from Outfall 001.

The following describes the water quality assessment results and listed impairments for the downstream waters of Goose Creek:

Recreational Use Impairment

Sufficient excursions from the instantaneous *E. coli* bacteria criterion were recorded at DEQ's ambient water quality monitoring station 1aGOO002.38 at the Route 7 crossing.

Aquatic Life Use Impairment

Goose Creek and Little River are classified as slightly impaired due to excess sediment loads. Sources of sediment in Goose Creek are stream bank erosion, erosion from pasture and erosion from crops and construction sites.

Fish Consumption Impairment

The fish consumption use is categorized as impaired due to PCBs presence in fish tissue. The Virginia Department of Health has issued a fish consumption advisory.

The receiving stream, Sycolin Creek, was included in the bacteria TMDL. A fecal coliform TMDL for the Goose Creek watershed was developed and approved by the U.S. EPA on 1 May 2003 with a modification approval on 30 October 2006. The Wasteload Allocation, as listed in the TMDL Modification to the Goose Creek Watershed Bacteria TMDL, is 2.76 x 10^{10} cfu/year for Fecal Coliform and 1.74 x 10^{10} cfu/year for *E. coli* bacteria.

While the benthic TMDL for Goose Creek did not specifically include Sycolin Creek, it did take into account all upstream point sources. A benthic TMDL for the Goose Creek watershed was approved by the U.S. EPA on 26 April 2004. The facility was given a Wasteload Allocation of 2.5 tons of sediment/year.

The TMDL to address the Fish Consumption impairments is scheduled to be completed in 2018.

b). Receiving Stream Water Quality Criteria

Part IX of 9 VAC 25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream Sycolin Creek is located within Section 8 of the Potomac River Basin and classified as Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C and maintain a pH of 6.0-9.0 standard units (S.U.).

Attachment 5 details other water quality criteria applicable to the receiving stream.

Ammonia:

The fresh water, aquatic life Water Quality Criteria for Ammonia are dependent on the instream temperature and pH. The 90th percentile temperature and pH values are used because they best represent the critical design conditions of the receiving stream. Staff reviewed the ambient data from Station 1aGOO002.38, located 1.48 miles downstream of the discharge point, since it provided the most recent data (**Attachment 6**).

Bacteria Criteria:

The Virginia Water Quality Standards (9 VAC 25-260-170 B.) states sewage discharges shall be disinfected to achieve the following criteria:

E. coli bacteria per 100 ml of water shall not exceed the following:

	Geometric Mean[1]	Single Sample Maximum
Freshwater *E. coli* (N/100 ml)	126	235

[1]For two or more samples taken during any calendar month

c). Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9 VAC 25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Sycolin Creek, is located within Section 8 of the Potomac River Basin. This section has been designated with a special standard of PWS.

Special Standard PWS designates a public water supply intake. The Board's Water Quality Standards establish numerical standards for specific parameters calculated to protect human health from toxic effects through drinking water and fish consumption (see 9 VAC 25-260-140 B for applicable criteria). It is staff's best professional judgement that those parameters listed are not present in this facility's discharge.

d). Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Wood Turtle, Upland Sandpiper (song bird), Loggerhead Shrike (song bird), Henslow's Sparrow (song bird), Bald Eagle, Green Floater (mussel), Migrant Loggerhead Shrike (song bird) and Dotted Skipper (butterfly). The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore, protect the threatened and endangered species found near the discharge.

16. Antidegradation (9 VAC 25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 2 based on an evaluation that (1) it has been designated with the special standard PWS, (2) the benthic TMDL did not include the discharge segment of Sycolin Creek and (3) current agency guidance does not allow for bacteria standards to be used for establishing the tier category. Therefore, it is staff's best professional judgement that the Tier 2 protection be kept in place for this reissuance. No significant degradation to the existing water quality will be allowed. In accordance with current DEQ guidance, no significant lowering of water quality is to occur where permit limits are based on the following:

- The dissolved oxygen in the receiving stream is not lowered more than 0.2 mg/L from the existing levels;
- The pH of the receiving stream is maintained within the range 6.0-9.0 S.U.;
- There is compliance with all temperature criteria applicable to the receiving stream;
- No more than 25% of the unused assimilative capacity is allocated for toxic criteria established for the protection of aquatic life; and
- No more than 10% of the unused assimilative capacity is allocated for criteria for the protection of human health.

The antidegradation policy also prohibits the expansion of mixing zones to Tier 2 waters unless the requirements of 9 VAC 25-260-30.A.2. are met. The draft permit is not proposing an expansion of the existing mixing zone.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are the calculated on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a). Effluent Screening

Effluent data obtained from Discharge Monitoring Reports (DMRs) during the last permit term has been reviewed and determined to be suitable for evaluation. The summary of effluent data can be found in the permit file.

b). Mixing Zones and Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f) (Q_s)] - [(C_s) (f) (Q_s)]}{Q_e}$$

Where:
- WLA = Wasteload allocation
- C_o = In-stream water quality criteria
- Q_e = Design flow
- f = Decimal fraction of critical flow from mixing evaluation
- Q_s = Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
- C_s = Mean background concentration of parameter in the receiving stream.

The Water Quality Standards contain two distinct mixing zone requirements. The first requirement is general in nature and requires the "use of mixing zone concepts in evaluating permit limits for acute and chronic standards in 9 VAC 25-260-140.B". The second requirement is specific and establishes special restrictions for regulatory mixing zones "established by the Board".

The Department of Environmental Quality uses a simplified mixing model to estimate the amount of mixing of a discharge with the receiving stream within specified acute and chronic exposure periods. The simplified model contains the following assumptions and approximations:

- The effluent enters the stream from the bank, either via a pipe, channel or ditch.
- The effluent velocity isn't significantly greater (no more than 1 - 2 ft/sec greater) than the stream velocity.
- The receiving stream is much wider than its depth (width at least ten times the depth).
- Diffusive mixing in the longitudinal direction (lengthwise) is insignificant compared with advective transport (flow).
- Complete vertical mixing occurs instantaneously at the discharge point. This is assumed since the stream depth is much smaller than the stream width.
- Lateral mixing (across the width) is a linear function of distance downstream.
- The effluent is neutrally buoyant (e.g. the effluent discharge temperature and salinity are not significantly different from the stream's ambient temperature and salinity).
- Complete mix is determined as the point downstream where the variation in concentration is 20% or less across the width and depth of the stream.
- The velocity of passing and drifting organisms is assumed equal to the stream velocity.

If it is suitably demonstrated that a reasonable potential for lethality or chronic impacts within the physical mixing area doesn't exist, then the basic complete mix equation, with 100% of the applicable stream flow, is appropriate. If the mixing analysis determines there is a potential for lethality or chronic impacts within the physical mixing area, then the proportion of stream flow that has mixed with the effluent over the allowed exposure time is used in the basic complete mix equation. As such, the wasteload allocation equation is modified to account for the decimal fraction of critical flow (f).

Staff derived wasteload allocations where parameters are reasonably expected to be present in an effluent (e.g., total residual chlorine where chlorine is used as a means of disinfection) and where effluent data indicate the pollutant is present in the discharge above quantifiable levels. With regard to the Outfall 001 discharge, ammonia as N is likely present since this is a WWTP treating sewage and total residual chlorine may be present since chlorine is used for disinfection. As such, **Attachment 7** details the mixing analysis results and **Attachment 5** details the WLA derivations for these pollutants.

Antidegradation Wasteload Allocations (AWLAs)

Since the receiving stream has been determined to be Tier 2 water, staff must also determine antidegradation wasteload allocations (AWLAs). The steady state complete mix equation is used substituting the antidegradation baseline (C_b) for the in-stream water quality criteria (C_o):

$$AWLA = \frac{C_b (Q_e + Q_s) - (C_s) (Q_s)}{Q_e}$$

Where:
- AWLA = Antidegradation-based wasteload allocation
- C_b = In-stream antidegradation baseline concentration
- Q_e = Design flow
- Q_s = Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
- C_s = Mean background concentration of parameter in the receiving stream.

Calculated AWLAs for the pollutants noted in Section 17.b. above are presented in **Attachment 5**.

c). Effluent Limitations, Outfall 001 – Toxic Pollutants

9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with AWLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9 VAC 25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Ammonia as N/TKN:

Staff evaluation of ambient pH and temperature data during the 1993, 1998 and 2003 permit reissuances determined that ammonia limits were not necessary in order to protect the instream water quality criteria (**Attachment 8**). Reevaluation of more recent ambient data has shown that it is not significantly different than the data utilized during the aforementioned reissuances. Therefore, it is staff's best professional judgement that the current June through November TKN limit of 5.0 mg/L be carried forward with this reissuance. The weekly average limit will be 7.5 mg/L based on a multiplier of 1.5 times the monthly average.

2) Total Residual Chlorine:

Chlorine is used for disinfection and is potentially in the discharge. Staff calculated WLAs and AWLAs for TRC using current critical flows and the mixing allowance. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated AWLAs to derive limits. A monthly average of 0.014 mg/L and a weekly average limit of 0.017 mg/L are proposed for this discharge (see **Attachment 9**).

d). Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to Dissolved Oxygen (D.O.), Biochemical Oxygen Demand – 5 day (BOD_5), carbonaceous Biochemical Oxygen Demand – 5 day ($cBOD_5$), Total Suspended Solids (TSS), Total Kjeldahl Nitrogen (TKN) and pH limitations are proposed.

The BOD_5, and $cBOD_5$ limitations are based on the stream modeling conducted in August 1998 (**Attachment 10**), Federal Secondary Treatment Standards and the Water Quality Standards 9 VAC 25-260-170.

It is staff's practice to equate the TSS limits with the BOD_5 limits since the two pollutants are closely related in terms of treatment of domestic sewage.

TKN limitations are based on best professional judgement.

pH limitations are set at the water quality criteria.

E. coli limitations are in accordance with the Water Quality Standards 9 VAC25-260-170.

e). Effluent Limitations and Monitoring Summary

The effluent limitations are presented in the following table. Limits were established for BOD_5, $cBOD_5$, Total Suspended Solids, TKN, pH, Dissolved Oxygen, Total Residual Chlorine and *E. coli*.

The limit for Total Suspended Solids is based on Best Professional Judgement.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19a. Effluent Limitations/Monitoring Requirements:

Design flow is 0.010 MGD.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	N/A	N/A	NL	1/D	ESTIMATE
pH	3	N/A	N/A	6.0 S.U.	9.0 S.U.	1/D	Grab
BOD_5 (Dec – May)	1,3,5	30 mg/L 1.1 kg/day	45 mg/L 1.7 kg/day	N/A	N/A	1/M	Grab
$cBOD_5$ (Jun – Nov)	1,3,5	12 mg/L 0.45 kg/day	18 mg/L 0.68 kg/day	N/A	N/A	1/M	Grab
Total Suspended Solids (TSS)	2	30 mg/L 1.1 kg/day	45 mg/L 1.7 kg/day	N/A	N/A	1/M	Grab
DO	3	N/A	N/A	5.0 mg/L	N/A	1/D	Grab
TKN (Jun – Nov)	2	5.0 mg/L 0.19 kg/day	7.5 mg/L 0.28 kg/day	N/A	N/A	1/M	Grab
E. coli	3,6	N/A	N/A	N/A	235 n/100 mL	1/M	Grab
Total Residual Chlorine (after contact tank)	2,4	N/A	N/A	1.5 mg/L	N/A	1/D	Grab
Total Residual Chlorine (after dechlorination)	3	0.014 mg/L	0.017 mg/L	N/A	N/A	1/D	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. DEQ Disinfection Guidance
5. Stream Model – **Attachment 10**
6. Goose Creek Watershed Bacteria TMDL

MGD = Million gallons per day.
N/A = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.

1/D = Once every day.
1/M = Once every month.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.
Estimate = Based on the technical evaluation of sources contributing to the discharge.

19b. Groundwater Monitoring Requirements:

Effective Dates: During the period beginning with the permit's effective date and lasting until the permit expiration date.

For wells: MWA, MWB and MWC

PARAMETERS	UNITS	LIMIT	MONITORING REQUIREMENTS	
			FREQUENCY	SAMPLE TYPE
Static water level	Ft.	NL	1/Y	Measured
pH	S.U.	NL	1/Y	Grab
Conductivity	µmho/cm	NL	1/Y	Grab
E. coli	n/100 mL	NL	1/Y	Grab
Nitrates	mg/L	NL	1/Y	Grab

1. Sampling frequency shall be increased to quarterly if contamination is indicated.
2. The static water level shall be measured prior to bailing the well water for sampling. At least three volumes of groundwater shall be withdrawn immediately before sampling each well.

1/Y = Once per calendar year.

Grab = An individual sample collected over a period not to exceed 15-minutes.

20. Other Permit Requirements:

a) Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions.

Minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more that three (3) of the monthly test results for TRC at the exit of the chlorine contact tank shall be < 1.5 mg/L with any TRC < 0.6 mg/L considered a system failure. The TRC limit of 1.5 mg/L is being carried forward from the last reissuance and reflects current agency guidance since the receiving stream has been designated with the special standard PWS.

9 VAC 25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

a) 95% Capacity Reopener. The VPDES Permit Regulation at 9 VAC 25-31-200.B.2. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. This facility is a POTW.

b) Indirect Dischargers. Required by VPDES Permit Regulation, 9 VAC 25-31-280 B.9 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

c) O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190.E. Before or on 9 March 2009, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual or a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

d) CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.

e) Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9 VAC 25-31-200 D, and Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators. This facility requires a Class IV operator.

f) Reliability Class. The Sewage Collection and Treatment Regulation at 9 VAC 25-790 requires sewerage works achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. The facility is required to meet a reliability Class I.

g) Sludge Reopener. The VPDES Permit Regulation at 9 VAC 25-31-200.C.4. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.

h) Sludge Use and Disposal. The VPDES Permit Regulation at 9 VAC 25-31-100.P., 220.B.2., and 420-720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.

i) Treatment Works Closure Plan. The State Water Control Law §62.1-44.15:1.1, makes it illegal for an owner to cease operation and fail to implement a closure plan when failure to implement the plan would result in harm to human health or the environment. This condition is used to notify the owner of the need for a closure plan where a facility is being replaced or is expected to close.

j) Ground Water Monitoring. State Water Control Law § 62.1-1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. Ground water monitoring for parameters of concem will indicate whether possible lagoon seepage is resulting in violations to the State Water Control Board's Ground Water Standards. A ground water monitoring plan was approved on 18 October 2004. Ground water monitoring consists of three monitoring wells: MWA, MWB and MWC (upgradient). The permittee shall continue monitoring and reporting for the parameters listed in Part I.A.

22. Permit Section Part II: Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

a) Special Conditions:

-The chlorine demonstration requirement was removed with this reissuance.
-The Schedule of compliance requirement was removed.
-Treatment Works Closure Plan condition was included with this reissuance.

b) Monitoring and Effluent Limitations:

-*E. coli* limitations were included with this reissuance to reflect current agency guidance.
-Chlorine limitations were reduced to 0.014 mg/L and 0.017 mg/L for the monthly and weekly average limits, respectively.
-The Static Water Level measurement was added to the monitoring well sampling regimen.
-Groundwater monitoring frequency was reduced to once per year based on results during the last permit term.

c) Other:

-The flow frequency determinations were updated for this reissuance.

24. Variances/Alternate Limits or Conditions: The sampling frequency for *E. coli* is proposed at once per month (1/M) due to the intermittent discharge at this facility. It is probable that this facility would not discharge more than once in a given calendar month. It is staff's best professional judgement that a maximum limit of 235 n/100 mL would insure compliance with the bacteria TMDL.

25. Public Notice Information:

First Public Notice Date: 5 November 2008 Second Public Notice Date: 12 November 2008

Public Notice Information is required by 9 VAC 25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3873, ddfrasier@deq.virginia.gov. See **Attachment 11** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

A fecal coliform TMDL for the Goose Creek watershed was developed and approved by the U.S. EPA on 1 May 2003 with a modification approval on 30 October 2006. The Wasteload Allocation, as listed in the TMDL Modification to the Goose Creek Watershed Bacteria TMDL, is 2.76×10^{10} cfu/year for Fecal Coliform and 1.74×10^{10} cfu/year for *E. coli* bacteria. The proposed bacteria limits should not contribute to the further impairment of water quality.

The benthic TMDL for Goose Creek did not specifically include Sycolin Creek; however, it did take into account all upstream point sources. A benthic TMDL for the Goose Creek watershed was approved by the U.S. EPA on 26 April 2004. The facility was given a Wasteload Allocation of 2.5 tons of sediment/year.

The TMDL to address the Fish Consumption impairments is scheduled to be completed in 2018.

TMDL Reopener: This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.

27. Additional Comments:

Previous Board Action(s):	None
Staff Comments:	None
Public Comment:	No comments were received during the public notice.
EPA Checklist:	The checklist can be found in **Attachment 12**.

Fact Sheet Attachments

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Goose Creek Industrial Park Wastewater Treatment Plant
VA0080993
2008 Reissuance

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Attachment 3	Topographic Map
Attachment 4	Inspection Summary Report
Attachment 5	Wasteload Allocation Analyses
Attachment 6	Ambient Water Quality Data
Attachment 7	Mixing Analysis Results
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Attachment 11	Public Notice
Attachment 12	EPA Checklist

MEMORANDUM

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court Woodbridge, VA 22193

TO: VPDES Reissuance File VA0080993

DATE: 20 August 2008

FROM: Douglas Frasier

SUBJECT: Flow Frequency Determination of VPDES Permit No. VA0080993
Goose Creek Industrial Park Wastewater Treatment Plant

Goose Creek Industrial Park WWTP discharges to Sycolin Creek, approximately 20 feet upstream of the convergence of Sycolin Creek and Goose Creek. It was staff's best professional judgement to update the stream flow frequencies utilizing current flow frequencies for use in the development of effluent limitations for this VPDES permit.

There is a continuous recording gage on Goose Creek near Leesburg, VA (#01644000), downstream from Outfall 001. The referenced gaging station has a drainage area of 332 square miles. The drainage area at the Outfall for Goose Creek Industrial Park WWTP is 17.3 square miles.

The flow frequencies shall be determined using values from gaging station #01644000 and adjusting them by proportional drainage areas.

Gaging Station #01644000

Drainage area	=	332 sq. mi.
1Q10	=	1.4 cfs
7Q10	=	1.8 cfs
30Q5	=	6.9 cfs
30Q10	=	3.7 cfs
High flow 30Q10	=	38 cfs
High flow 1Q10	=	15 cfs
High flow 7Q10	=	21 cfs
Harmonic Mean	=	33 cfs

Sycolin Creek at Goose Creek Industrial WWTP at Outfall 001

Drainage area	=	17.3 sq. mi.	
1Q10	=	0.07 cfs	0.05 MGD*
7Q10	=	0.09 cfs	0.06 MGD*
30Q5	=	0.36 cfs	0.23 MGD*
30Q10	=	0.19 cfs	0.12 MGD*
High flow 30Q10	=	2.0 cfs	1.3 MGD*
High flow 1Q10	=	0.78 cfs	0.50 MGD*
High flow 7Q10	=	1.1 cfs	0.71 MGD*
Harmonic Mean	=	1.7 cfs	1.1 MGD*

*Conversion to MGD = (cfs flow measurement) x (0.6463)

The high flow months are December - May

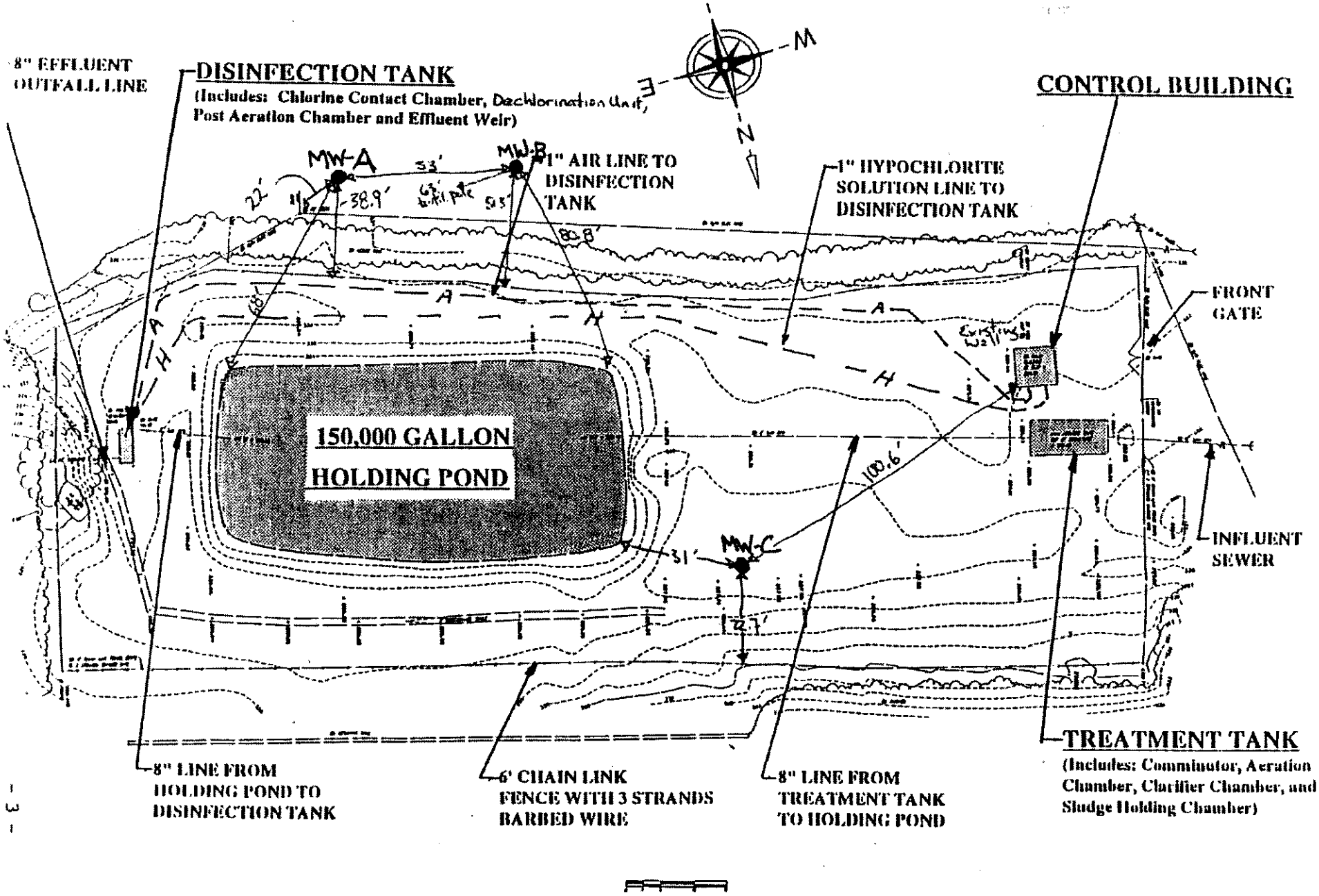
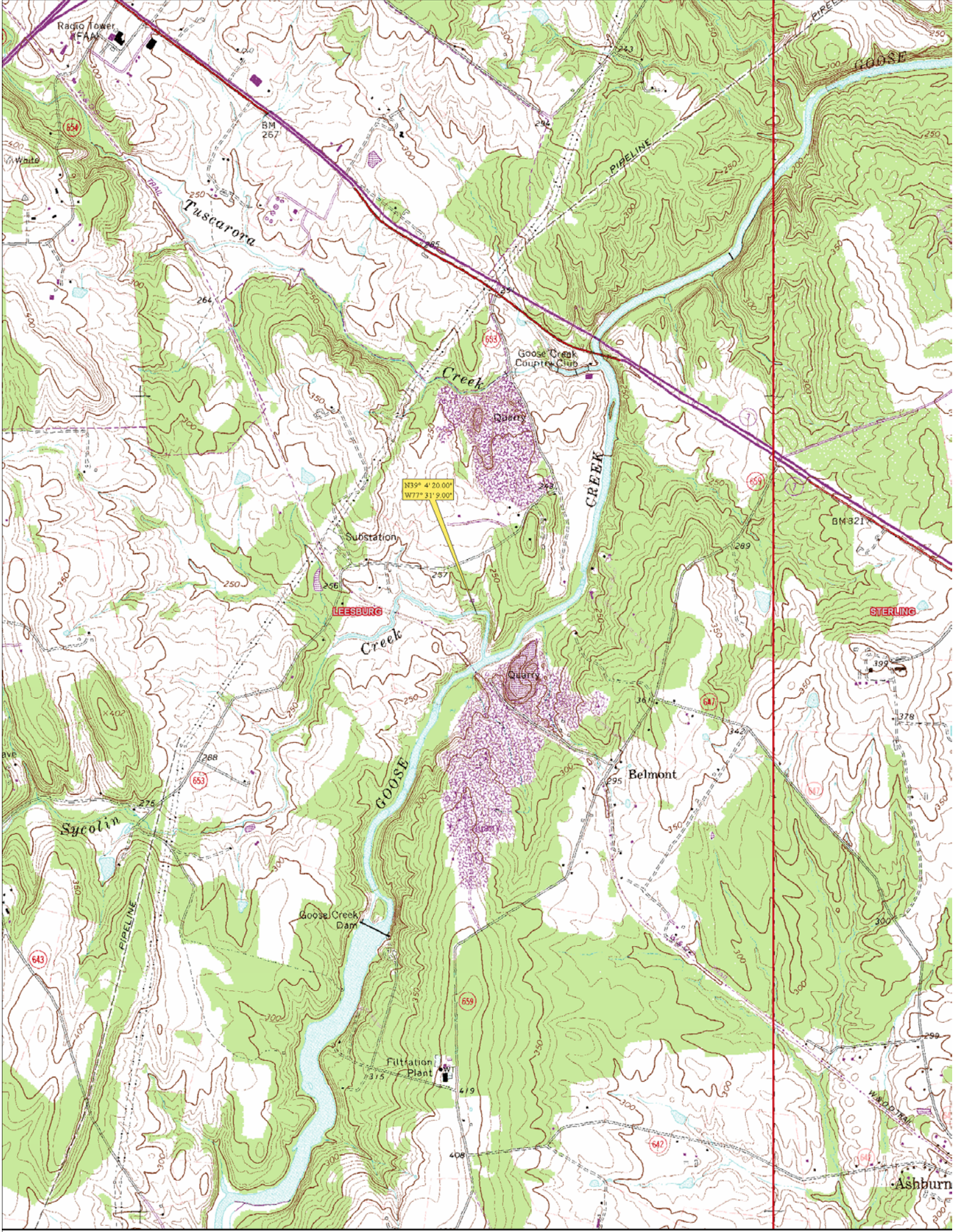


FIGURE 2 - GCIP-WWTP SITE LAYOUT



0 ¼ ½ ¾ 1 mi
0 1 2 3 km

TN
MN
10.4°W

TECHNICAL SUMMARY

Comments:

- **The staff was knowledgeable and helpful; the plant and grounds in good condition.**
- **The permit's schedule of compliance to demonstrate compliance with the E. coli limit was determined to have been satisfied in May 2004 and the requirement for E. coli monitoring was waived.**
- **Review of the groundwater monitoring results from October 2004 through September 2006 shows three instances of significant E. coli detection (reported as N colonies/100ml) in Groundwater Monitoring Well C (MW-C), the up-gradient well located to the northwest of the Lemna pond. The two down-gradient monitoring wells, parallel to the south side of the pond, have not shown numbers of concern.**

Recommendations for action:

- **During the permit writer's site visit prior to reissuing this permit in 2003, she noted numerous muskrat burrows in the bank of the Lemna pond and as a result required the installation of groundwater monitoring wells to determine if the integrity of the pond's bentonite clay liner had been breached. While the pond condition is much improved, two burrows were noted in the berm on the north side of the pond. The burrows should be filled as they are discovered to discourage muskrat colonization.**

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Goose Creek Industrial Park WWTP Permit No.: VA0080993

Receiving Stream: Sycolin Creek Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information			Stream Flows			Mixing Information			Effluent Information		
Mean Hardness (as CaCO3) =	50	mg/L	1Q10 (Annual) =	0.05	MGD	Annual - 1Q10 Mix =	100	%	Mean Hardness (as CaCO3) =	50	mg/L
90% Temperature (Annual) =	22	deg C	7Q10 (Annual) =	0.06	MGD	- 7Q10 Mix =	100	%	90% Temp (Annual) =	25	deg C
90% Temperature (Wet season) =	16	deg C	30Q10 (Annual) =	0.12	MGD	- 30Q10 Mix =	100	%	90% Temp (Wet season) =		deg C
90% Maximum pH =	8	SU	1Q10 (Wet season) =	0.5	MGD	Wet Season - 1Q10 Mix =	100	%	90% Maximum pH =	8.6	SU
10% Maximum pH =		SU	30Q10 (Wet season)	1.3	MGD	- 30Q10 Mix =	100	%	10% Maximum pH =		SU
Tier Designation (1 or 2) =	2		30Q5 =	0.23	MGD				Discharge Flow =	0.01	MGD
Public Water Supply (PWS) Y/N? =	y		Harmonic Mean =	1.1	MGD						
Trout Present Y/N? =	n		Annual Average =	NA	MGD						
Early Life Stages Present Y/N? =	y										

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Acenapthene	0	--	--	1.2E+03	2.7E+03	--	--	2.9E+04	6.5E+04	--	--	1.2E+02	2.7E+02	--	--	2.9E+03	6.5E+03	**--**	**--**	**2.9E+03**	**6.5E+03**
Acrolein	0	--	--	3.2E+02	7.8E+02	--	--	7.7E+03	1.9E+04	--	--	3.2E+01	7.8E+01	--	--	7.7E+02	1.9E+03	**--**	**--**	**7.7E+02**	**1.9E+03**
Acrylonitrile[C]	0	--	--	5.9E-01	6.6E+00	--	--	6.5E+01	7.3E+02	--	--	5.9E-02	6.6E-01	--	--	6.5E+00	7.3E+01	**--**	**--**	**6.5E+00**	**7.3E+01**
Aldrin [C]	0	3.0E+00	--	1.3E-03	1.4E-03	1.8E+01	--	1.4E-01	1.6E-01	7.5E-01	--	1.3E-04	1.4E-04	4.5E+00	--	1.4E-02	1.6E-02	**4.5E+00**	**--**	**1.4E-02**	**1.6E-02**
Ammonia-N (mg/l) (Yearly)	0	7.53E+00	1.43E+00	--	--	4.5E+01	1.9E+01	--	--	1.88E+00	3.56E-01	--	--	1.1E+01	4.6E+00	--	--	**1.1E+01**	**4.6E+00**	**--**	**--**
Ammonia-N (mg/l) (High Flow)	0	8.31E+00	2.22E+00	--	--	4.2E+02	2.9E+02	--	--	2.08E+00	5.55E-01	--	--	1.1E+02	7.3E+01	--	--	**1.1E+02**	**7.3E+01**	**--**	**--**
Anthracene	0	--	--	9.6E+03	1.1E+05	--	--	2.3E+05	2.6E+06	--	--	9.6E+02	1.1E+04	--	--	2.3E+04	2.6E+05	**--**	**--**	**2.3E+04**	**2.6E+05**
Antimony	0	--	--	1.4E+01	4.3E+03	--	--	3.4E+02	1.0E+05	--	--	1.4E+00	4.3E+02	--	--	3.4E+01	1.0E+04	**--**	**--**	**3.4E+01**	**1.0E+04**
Arsenic	o	3.4E+02	1.5E+02	1.0E+01	--	2.0E+03	1.1E+03	2.4E+02	--	8.5E+01	3.8E+01	1.0E+00	--	5.1E+02	2.6E+02	2.4E+01	--	**5.1E+02**	**2.6E+02**	**2.4E+01**	**--**
Barium	0	--	--	2.0E+03	--	--	--	4.8E+04	--	--	--	2.0E+02	--	--	--	4.8E+03	--	**--**	**--**	**4.8E+03**	**--**
Benzene [C]	0	--	--	1.2E+01	7.1E+02	--	--	1.3E+03	7.9E+04	--	--	1.2E+00	7.1E+01	--	--	1.3E+02	7.9E+03	**--**	**--**	**1.3E+02**	**7.9E+03**
Benzidine[C]	0	--	--	1.2E-03	5.4E-03	--	--	1.3E-01	6.0E-01	--	--	1.2E-04	5.4E-04	--	--	1.3E-02	6.0E-02	**--**	**--**	**1.3E-02**	**6.0E-02**
Benzo (a) anthracene [C]	0	--	--	4.4E-02	4.9E-01	--	--	4.9E+00	5.4E+01	--	--	4.4E-03	4.9E-02	--	--	4.9E-01	5.4E+00	**--**	**--**	**4.9E-01**	**5.4E+00**
Benzo (b) fluoranthene [C]	0	--	--	4.4E-02	4.9E-01	--	--	4.9E+00	5.4E+01	--	--	4.4E-03	4.9E-02	--	--	4.9E-01	5.4E+00	**--**	**--**	**4.9E-01**	**5.4E+00**
Benzo (k) fluoranthene [C]	0	--	--	4.4E-02	4.9E-01	--	--	4.9E+00	5.4E+01	--	--	4.4E-03	4.9E-02	--	--	4.9E-01	5.4E+00	**--**	**--**	**4.9E-01**	**5.4E+00**
Benzo (a) pyrene [C]	0	--	--	4.4E-02	4.9E-01	--	--	4.9E+00	5.4E+01	--	--	4.4E-03	4.9E-02	--	--	4.9E-01	5.4E+00	**--**	**--**	**4.9E-01**	**5.4E+00**
Bis2-Chloroethyl Ether	0	--	--	3.1E-01	1.4E+01	--	--	7.4E+00	3.4E+02	--	--	3.1E-02	1.4E+00	--	--	7.4E-01	3.4E+01	**--**	**--**	**7.4E-01**	**3.4E+01**
Bis2-Chloroisopropyl Ether	0	--	--	1.4E+03	1.7E+05	--	--	3.4E+04	4.1E+06	--	--	1.4E+02	1.7E+04	--	--	3.4E+03	4.1E+05	**--**	**--**	**3.4E+03**	**4.1E+05**
Bromoform [C]	0	--	--	4.4E+01	3.6E+03	--	--	4.9E+03	4.0E+05	--	--	4.4E+00	3.6E+02	--	--	4.9E+02	4.0E+04	**--**	**--**	**4.9E+02**	**4.0E+04**
Butylbenzylphthalate	0	--	--	3.0E+03	5.2E+03	--	--	7.2E+04	1.2E+05	--	--	3.0E+02	5.2E+02	--	--	7.2E+03	1.2E+04	**--**	**--**	**7.2E+03**	**1.2E+04**
Cadmium	0	1.8E+00	6.6E-01	5.0E+00	--	1.1E+01	4.6E+00	1.2E+02	--	4.5E-01	1.6E-01	5.0E-01	--	2.7E+00	1.2E+00	1.2E+01	--	**2.7E+00**	**1.2E+00**	**1.2E+01**	**--**
Carbon Tetrachloride [C]	0	--	--	2.5E+00	4.4E+01	--	--	2.8E+02	4.9E+03	--	--	2.5E-01	4.4E+00	--	--	2.8E+01	4.9E+02	**--**	**--**	**2.8E+01**	**4.9E+02**
Chlordane [C]	0	2.4E+00	4.3E-03	2.1E-02	2.2E-02	1.4E+01	3.0E-02	2.3E+00	2.4E+00	6.0E-01	1.1E-03	2.1E-03	2.2E-03	3.6E+00	7.5E-03	2.3E-01	2.4E-01	**3.6E+00**	**7.5E-03**	**2.3E-01**	**2.4E-01**
Chloride	0	8.6E+05	2.3E+05	2.5E+05	--	5.2E+06	1.6E+06	6.0E+06	--	2.2E+05	5.8E+04	2.5E+04	--	1.3E+06	4.0E+05	6.0E+05	--	**1.3E+06**	**4.0E+05**	**6.0E+05**	**--**
TRC	0	1.9E+01	1.1E+01	--	--	1.1E+02	7.7E+01	--	--	4.8E+00	2.8E+00	--	--	2.9E+01	1.9E+01	--	--	**2.9E+01**	**1.9E+01**	**--**	**--**
Chlorobenzene	0	--	--	6.8E+02	2.1E+04	--	--	1.6E+04	5.0E+05	--	--	6.8E+01	2.1E+03	--	--	1.6E+03	5.0E+04	**--**	**--**	**1.6E+03**	**5.0E+04**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Chlorodibromomethane[C]	0	--	--	4.1E+00	3.4E+02	--	--	4.6E+02	3.8E+04	--	--	4.1E-01	3.4E+01	--	--	4.6E+01	3.8E+03	**--**	**--**	**4.6E+01**	**3.8E+03**
Chloroform [C]	0	--	--	3.5E+02	2.9E+04	--	--	3.9E+04	3.2E+06	--	--	3.5E+01	2.9E+03	--	--	3.9E+03	3.2E+05	**--**	**--**	**3.9E+03**	**3.2E+05**
2-Chloronaphthalene	0	--	--	1.7E+03	4.3E+03	--	--	4.1E+04	1.0E+05	--	--	1.7E+02	4.3E+02	--	--	4.1E+03	1.0E+04	**--**	**--**	**4.1E+03**	**1.0E+04**
2-Chlorophenol	0	--	--	1.2E+02	4.0E+02	--	--	2.9E+03	9.6E+03	--	--	1.2E+01	4.0E+01	--	--	2.9E+02	9.6E+02	**--**	**--**	**2.9E+02**	**9.6E+02**
Chlorpyrifos	0	8.3E-02	4.1E-02	--	--	5.0E-01	2.9E-01	--	--	2.1E-02	1.0E-02	--	--	1.2E-01	7.2E-02	--	--	**1.2E-01**	**7.2E-02**	**--**	**--**
Chromium III	0	3.2E+02	4.2E+01	--	--	1.9E+03	2.9E+02	--	--	8.1E+01	1.1E+01	--	--	4.8E+02	7.4E+01	--	--	**4.8E+02**	**7.4E+01**	**--**	**--**
Chromium VI	0	1.6E+01	1.1E+01	--	--	9.6E+01	7.7E+01	--	--	4.0E+00	2.8E+00	--	--	2.4E+01	1.9E+01	--	--	**2.4E+01**	**1.9E+01**	**--**	**--**
Chromium, Total	0	--	--	1.0E+02	--	--	--	2.4E+03	--	--	--	1.0E+01	--	--	--	2.4E+02	--	**--**	**--**	**2.4E+02**	**--**
Chrysene [C]	0	--	--	4.4E-02	4.9E-01	--	--	4.9E+00	5.4E+01	--	--	4.4E-03	4.9E-02	--	--	4.9E-01	5.4E+00	**--**	**--**	**4.9E-01**	**5.4E+00**
Copper	0	7.0E+00	5.0E+00	1.3E+03	--	4.2E+01	3.5E+01	3.1E+04	--	1.7E+00	1.2E+00	1.3E+02	--	1.0E+01	8.7E+00	3.1E+03	--	**1.0E+01**	**8.7E+00**	**3.1E+03**	**--**
Cyanide	0	2.2E+01	5.2E+00	7.0E+02	2.2E+05	1.3E+02	3.6E+01	1.7E+04	5.2E+06	5.5E+00	1.3E+00	7.0E+01	2.2E+04	3.3E+01	9.1E+00	1.7E+03	5.2E+05	**3.3E+01**	**9.1E+00**	**1.7E+03**	**5.2E+05**
DDD [C]	0	--	--	8.3E-03	8.4E-03	--	--	9.2E-01	9.3E-01	--	--	8.3E-04	8.4E-04	--	--	9.2E-02	9.3E-02	**--**	**--**	**9.2E-02**	**9.3E-02**
DDE [C]	0	--	--	5.9E-03	5.9E-03	--	--	6.5E-01	6.5E-01	--	--	5.9E-04	5.9E-04	--	--	6.5E-02	6.5E-02	**--**	**--**	**6.5E-02**	**6.5E-02**
DDT [C]	0	1.1E+00	1.0E-03	5.9E-03	5.9E-03	6.6E+00	7.0E-03	6.5E-01	6.5E-01	2.8E-01	2.5E-04	5.9E-04	5.9E-04	1.7E+00	1.8E-03	6.5E-02	6.5E-02	**1.7E+00**	**1.8E-03**	**6.5E-02**	**6.5E-02**
Demeton	0	--	1.0E-01	--	--	--	7.0E-01	--	--	--	2.5E-02	--	--	--	1.8E-01	--	--	**--**	**1.8E-01**	**--**	**--**
Dibenz(a,h)anthracene [C]	0	--	--	4.4E-02	4.9E-01	--	--	4.9E+00	5.4E+01	--	--	4.4E-03	4.9E-02	--	--	4.9E-01	5.4E+00	**--**	**--**	**4.9E-01**	**5.4E+00**
Dibutyl phthalate	0	--	--	2.7E+03	1.2E+04	--	--	6.5E+04	2.9E+05	--	--	2.7E+02	1.2E+03	--	--	6.5E+03	2.9E+04	**--**	**--**	**6.5E+03**	**2.9E+04**
Dichloromethane (Methylene Chloride) [C]	0	--	--	4.7E+01	1.6E+04	--	--	5.2E+03	1.8E+06	--	--	4.7E+00	1.6E+03	--	--	5.2E+02	1.8E+05	**--**	**--**	**5.2E+02**	**1.8E+05**
1,2-Dichlorobenzene	0	--	--	2.7E+03	1.7E+04	--	--	6.5E+04	4.1E+05	--	--	2.7E+02	1.7E+03	--	--	6.5E+03	4.1E+04	**--**	**--**	**6.5E+03**	**4.1E+04**
1,3-Dichlorobenzene	0	--	--	4.0E+02	2.6E+03	--	--	9.6E+03	6.2E+04	--	--	4.0E+01	2.6E+02	--	--	9.6E+02	6.2E+03	**--**	**--**	**9.6E+02**	**6.2E+03**
1,4-Dichlorobenzene	0	--	--	4.0E+02	2.6E+03	--	--	9.6E+03	6.2E+04	--	--	4.0E+01	2.6E+02	--	--	9.6E+02	6.2E+03	**--**	**--**	**9.6E+02**	**6.2E+03**
3,3-Dichlorobenzidine[C]	0	--	--	4.0E-01	7.7E-01	--	--	4.4E+01	8.5E+01	--	--	4.0E-02	7.7E-02	--	--	4.4E+00	8.5E+00	**--**	**--**	**4.4E+00**	**8.5E+00**
Dichlorobromomethane [C]	0	--	--	5.6E+00	4.6E+02	--	--	6.2E+02	5.1E+04	--	--	5.6E-01	4.6E+01	--	--	6.2E+01	5.1E+03	**--**	**--**	**6.2E+01**	**5.1E+03**
1,2-Dichloroethane [C]	0	--	--	3.8E+00	9.9E+02	--	--	4.2E+02	1.1E+05	--	--	3.8E-01	9.9E+01	--	--	4.2E+01	1.1E+04	**--**	**--**	**4.2E+01**	**1.1E+04**
1,1-Dichloroethylene	0	--	--	3.1E+02	1.7E+04	--	--	7.4E+03	4.1E+05	--	--	3.1E+01	1.7E+03	--	--	7.4E+02	4.1E+04	**--**	**--**	**7.4E+02**	**4.1E+04**
1,2-trans-dichloroethylene	0	--	--	7.0E+02	1.4E+05	--	--	1.7E+04	3.4E+06	--	--	7.0E+01	1.4E+04	--	--	1.7E+03	3.4E+05	**--**	**--**	**1.7E+03**	**3.4E+05**
2,4-Dichlorophenol	0	--	--	9.3E+01	7.9E+02	--	--	2.2E+03	1.9E+04	--	--	9.3E+00	7.9E+01	--	--	2.2E+02	1.9E+03	**--**	**--**	**2.2E+02**	**1.9E+03**
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	1.0E+02	--	--	--	2.4E+03	--	--	--	1.0E+01	--	--	--	2.4E+02	--	**--**	**--**	**2.4E+02**	**--**
1,2-Dichloropropane[C]	0	--	--	5.2E+00	3.9E+02	--	--	5.8E+02	4.3E+04	--	--	5.2E-01	3.9E+01	--	--	5.8E+01	4.3E+03	**--**	**--**	**5.8E+01**	**4.3E+03**
1,3-Dichloropropene	0	--	--	1.0E+01	1.7E+03	--	--	2.4E+02	4.1E+04	--	--	1.0E+00	1.7E+02	--	--	2.4E+01	4.1E+03	**--**	**--**	**2.4E+01**	**4.1E+03**
Dieldrin [C]	0	2.4E-01	5.6E-02	1.4E-03	1.4E-03	1.4E+00	3.9E-01	1.6E-01	1.6E-01	6.0E-02	1.4E-02	1.4E-04	1.4E-04	3.6E-01	9.8E-02	1.6E-02	1.6E-02	**3.6E-01**	**9.8E-02**	**1.6E-02**	**1.6E-02**
Diethyl Phthalate	0	--	--	2.3E+04	1.2E+05	--	--	5.5E+05	2.9E+06	--	--	2.3E+03	1.2E+04	--	--	5.5E+04	2.9E+05	**--**	**--**	**5.5E+04**	**2.9E+05**
Di-2-Ethylhexyl Phthalate [C]	0	--	--	1.8E+01	5.9E+01	--	--	2.0E+03	6.5E+03	--	--	1.8E+00	5.9E+00	--	--	2.0E+02	6.5E+02	**--**	**--**	**2.0E+02**	**6.5E+02**
2,4-Dimethylphenol	0	--	--	5.4E+02	2.3E+03	--	--	1.3E+04	5.5E+04	--	--	5.4E+01	2.3E+02	--	--	1.3E+03	5.5E+03	**--**	**--**	**1.3E+03**	**5.5E+03**
Dimethyl Phthalate	0	--	--	3.1E+05	2.9E+06	--	--	7.5E+06	7.0E+07	--	--	3.1E+04	2.9E+05	--	--	7.5E+05	7.0E+06	**--**	**--**	**7.5E+05**	**7.0E+06**
Di-n-Butyl Phthalate	0	--	--	2.7E+03	1.2E+04	--	--	6.5E+04	2.9E+05	--	--	2.7E+02	1.2E+03	--	--	6.5E+03	2.9E+04	**--**	**--**	**6.5E+03**	**2.9E+04**
2,4 Dinitrophenol	0	--	--	7.0E+01	1.4E+04	--	--	1.7E+03	3.4E+05	--	--	7.0E+00	1.4E+03	--	--	1.7E+02	3.4E+04	**--**	**--**	**1.7E+02**	**3.4E+04**
2-Methyl-4,6-Dinitrophenol	0	--	--	1.3E+01	7.65E+02	--	--	3.2E+02	1.8E+04	--	--	1.3E+00	7.7E+01	--	--	3.2E+01	1.8E+03	**--**	**--**	**3.2E+01**	**1.8E+03**
2,4-Dinitrotoluene [C]	0	--	--	1.1E+00	9.1E+01	--	--	1.2E+02	1.0E+04	--	--	1.1E-01	9.1E+00	--	--	1.2E+01	1.0E+03	**--**	**--**	**1.2E+01**	**1.0E+03**
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	1.2E-06	1.2E-06	--	--	1.2E-06	1.2E-06	--	--	1.2E-07	1.2E-07	--	--	1.2E-07	1.2E-07	**--**	**--**	**1.2E-07**	**1.2E-07**
1,2-Diphenylhydrazine[C]	0	--	--	4.0E-01	5.4E+00	--	--	4.4E+01	6.0E+02	--	--	4.0E-02	5.4E-01	--	--	4.4E+00	6.0E+01	**--**	**--**	**4.4E+00**	**6.0E+01**
Alpha-Endosulfan	0	2.2E-01	5.6E-02	1.1E+02	2.4E+02	1.3E+00	3.9E-01	2.6E+03	5.8E+03	5.5E-02	1.4E-02	1.1E+01	2.4E+01	3.3E-01	9.8E-02	2.6E+02	5.8E+02	**3.3E-01**	**9.8E-02**	**2.6E+02**	**5.8E+02**
Beta-Endosulfan	0	2.2E-01	5.6E-02	1.1E+02	2.4E+02	1.3E+00	3.9E-01	2.6E+03	5.8E+03	5.5E-02	1.4E-02	1.1E+01	2.4E+01	3.3E-01	9.8E-02	2.6E+02	5.8E+02	**3.3E-01**	**9.8E-02**	**2.6E+02**	**5.8E+02**
Endosulfan Sulfate	0	--	--	1.1E+02	2.4E+02	--	--	2.6E+03	5.8E+03	--	--	1.1E+01	2.4E+01	--	--	2.6E+02	5.8E+02	**--**	**--**	**2.6E+02**	**5.8E+02**
Endrin	0	8.6E-02	3.6E-02	7.6E-01	8.1E-01	5.2E-01	2.5E-01	1.8E+01	1.9E+01	2.2E-02	9.0E-03	7.6E-02	8.1E-02	1.3E-01	6.3E-02	1.8E+00	1.9E+00	**1.3E-01**	**6.3E-02**	**1.8E+00**	**1.9E+00**
Endrin Aldehyde	0	--	--	7.6E-01	8.1E-01	--	--	1.8E+01	1.9E+01	--	--	7.6E-02	8.1E-02	--	--	1.8E+00	1.9E+00	**--**	**--**	**1.8E+00**	**1.9E+00**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Ethylbenzene	0	--	--	3.1E+03	2.9E+04	--	--	7.4E+04	7.0E+05	--	--	3.1E+02	2.9E+03	--	--	7.4E+03	7.0E+04	**--**	**--**	**7.4E+03**	**7.0E+04**
Fluoranthene	0	--	--	3.0E+02	3.7E+02	--	--	7.2E+03	8.9E+03	--	--	3.0E+01	3.7E+01	--	--	7.2E+02	8.9E+02	**--**	**--**	**7.2E+02**	**8.9E+02**
Fluorene	0	--	--	1.3E+03	1.4E+04	--	--	3.1E+04	3.4E+05	--	--	1.3E+02	1.4E+03	--	--	3.1E+03	3.4E+04	**--**	**--**	**3.1E+03**	**3.4E+04**
Foaming Agents	0	--	--	5.0E+02	--	--	--	1.2E+04	--	--	--	5.0E+01	--	--	--	1.2E+03	--	**--**	**--**	**1.2E+03**	**--**
Guthion	0	--	1.0E-02	--	--	--	7.0E-02	--	--	--	2.5E-03	--	--	--	1.8E-02	--	--	**--**	**1.8E-02**	**--**	**--**
Heptachlor [C]	0	5.2E-01	3.8E-03	2.1E-03	2.1E-03	3.1E+00	2.7E-02	2.3E-01	2.3E-01	1.3E-01	9.5E-04	2.1E-04	2.1E-04	7.8E-01	6.7E-03	2.3E-02	2.3E-02	**7.8E-01**	**6.7E-03**	**2.3E-02**	**2.3E-02**
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	1.0E-03	1.1E-03	3.1E+00	2.7E-02	1.1E-01	1.2E-01	1.3E-01	9.5E-04	1.0E-04	1.1E-04	7.8E-01	6.7E-03	1.1E-02	1.2E-02	**7.8E-01**	**6.7E-03**	**1.1E-02**	**1.2E-02**
Hexachlorobenzene[C]	0	--	--	7.5E-03	7.7E-03	--	--	8.3E-01	8.5E-01	--	--	7.5E-04	7.7E-04	--	--	8.3E-02	8.5E-02	**--**	**--**	**8.3E-02**	**8.5E-02**
Hexachlorobutadiene[C]	0	--	--	4.4E+00	5.0E+02	--	--	4.9E+02	5.6E+04	--	--	4.4E-01	5.0E+01	--	--	4.9E+01	5.6E+03	**--**	**--**	**4.9E+01**	**5.6E+03**
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	3.9E-02	1.3E-01	--	--	4.3E+00	1.4E+01	--	--	3.9E-03	1.3E-02	--	--	4.3E-01	1.4E+00	**--**	**--**	**4.3E-01**	**1.4E+00**
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	1.4E-01	4.6E-01	--	--	1.6E+01	5.1E+01	--	--	1.4E-02	4.6E-02	--	--	1.6E+00	5.1E+00	**--**	**--**	**1.6E+00**	**5.1E+00**
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	--	1.9E-01	6.3E-01	5.7E+00	--	2.1E+01	7.0E+01	2.4E-01	--	1.9E-02	6.3E-02	1.4E+00	--	2.1E+00	7.0E+00	**1.4E+00**	**--**	**2.1E+00**	**7.0E+00**
Hexachlorocyclopentadiene	0	--	--	2.4E+02	1.7E+04	--	--	5.8E+03	4.1E+05	--	--	2.4E+01	1.7E+03	--	--	5.8E+02	4.1E+04	**--**	**--**	**5.8E+02**	**4.1E+04**
Hexachloroethane[C]	0	--	--	1.9E+01	8.9E+01	--	--	2.1E+03	9.9E+03	--	--	1.9E+00	8.9E+00	--	--	2.1E+02	9.9E+02	**--**	**--**	**2.1E+02**	**9.9E+02**
Hydrogen Sulfide	0	--	2.0E+00	--	--	--	1.4E+01	--	--	--	5.0E-01	--	--	--	3.5E+00	--	--	**--**	**3.5E+00**	**--**	**--**
Indeno (1,2,3-cd) pyrene [C]	0	--	--	4.4E-02	4.9E-01	--	--	4.9E+00	5.4E+01	--	--	4.4E-03	4.9E-02	--	--	4.9E-01	5.4E+00	**--**	**--**	**4.9E-01**	**5.4E+00**
Iron	0	--	--	3.0E+02	--	--	--	7.2E+03	--	--	--	3.0E+01	--	--	--	7.2E+02	--	**--**	**--**	**7.2E+02**	**--**
Isophorone[C]	0	--	--	3.6E+02	2.6E+04	--	--	4.0E+04	2.9E+06	--	--	3.6E+01	2.6E+03	--	--	4.0E+03	2.9E+05	**--**	**--**	**4.0E+03**	**2.9E+05**
Kepone	0	--	0.0E+00	--	--	--	0.0E+00	--	--	--	0.0E+00	--	--	--	0.0E+00	--	--	**--**	**0.0E+00**	**--**	**--**
Lead	0	4.9E+01	5.6E+00	1.5E+01	--	3.0E+02	3.9E+01	3.6E+02	--	1.2E+01	1.4E+00	1.5E+00	--	7.4E+01	9.8E+00	3.6E+01	--	**7.4E+01**	**9.8E+00**	**3.6E+01**	**--**
Malathion	0	--	1.0E-01	--	--	--	7.0E-01	--	--	--	2.5E-02	--	--	--	1.8E-01	--	--	**--**	**1.8E-01**	**--**	**--**
Manganese	0	--	--	5.0E+01	--	--	--	1.2E+03	--	--	--	5.0E+00	--	--	--	1.2E+02	--	**--**	**--**	**1.2E+02**	**--**
Mercury	0	1.4E+00	7.7E-01	5.0E-02	5.1E-02	8.4E+00	5.4E+00	1.2E+00	1.2E+00	3.5E-01	1.9E-01	5.0E-03	5.1E-03	2.1E+00	1.3E+00	1.2E-01	1.2E-01	**2.1E+00**	**1.3E+00**	**1.2E-01**	**1.2E-01**
Methyl Bromide	0	--	--	4.8E+01	4.0E+03	--	--	1.2E+03	9.6E+04	--	--	4.8E+00	4.0E+02	--	--	1.2E+02	9.6E+03	**--**	**--**	**1.2E+02**	**9.6E+03**
Methoxychlor	0	--	3.0E-02	1.0E+02	--	--	2.1E-01	2.4E+03	--	--	7.5E-03	1.0E+01	--	--	5.3E-02	2.4E+02	--	**--**	**5.3E-02**	**2.4E+02**	**--**
Mirex	0	--	0.0E+00	--	--	--	0.0E+00	--	--	--	0.0E+00	--	--	--	0.0E+00	--	--	**--**	**0.0E+00**	**--**	**--**
Monochlorobenzene	0	--	--	6.8E+02	2.1E+04	--	--	1.6E+04	5.0E+05	--	--	6.8E+01	2.1E+03	--	--	1.6E+03	5.0E+04	**--**	**--**	**1.6E+03**	**5.0E+04**
Nickel	0	1.0E+02	1.1E+01	6.1E+02	4.6E+03	6.1E+02	7.9E+01	1.5E+04	1.1E+05	2.5E+01	2.8E+00	6.1E+01	4.6E+02	1.5E+02	2.0E+01	1.5E+03	1.1E+04	**1.5E+02**	**2.0E+01**	**1.5E+03**	**1.1E+04**
Nitrate (as N)	0	--	--	1.0E+04	--	--	--	2.4E+05	--	--	--	1.0E+03	--	--	--	2.4E+04	--	**--**	**--**	**2.4E+04**	**--**
Nitrobenzene	0	--	--	1.7E+01	1.9E+03	--	--	4.1E+02	4.6E+04	--	--	1.7E+00	1.9E+02	--	--	4.1E+01	4.6E+03	**--**	**--**	**4.1E+01**	**4.6E+03**
N-Nitrosodimethylamine[C]	0	--	--	6.9E-03	8.1E+01	--	--	7.7E-01	9.0E+03	--	--	6.9E-04	8.1E+00	--	--	7.7E-02	9.0E+02	**--**	**--**	**7.7E-02**	**9.0E+02**
N-Nitrosodiphenylamine[C]	0	--	--	5.0E+01	1.6E+02	--	--	5.6E+03	1.8E+04	--	--	5.0E+00	1.6E+01	--	--	5.6E+02	1.8E+03	**--**	**--**	**5.6E+02**	**1.8E+03**
N-Nitrosodi-n-propylamine[C]	0	--	--	5.0E-02	1.4E+01	--	--	5.6E+00	1.6E+03	--	--	5.0E-03	1.4E+00	--	--	5.6E-01	1.6E+02	**--**	**--**	**5.6E-01**	**1.6E+02**
Parathion	0	6.5E-02	1.3E-02	--	--	3.9E-01	9.1E-02	--	--	1.6E-02	3.3E-03	--	--	9.8E-02	2.3E-02	--	--	**9.8E-02**	**2.3E-02**	**--**	**--**
PCB-1016	0	--	1.4E-02	--	--	--	9.8E-02	--	--	--	3.5E-03	--	--	--	2.5E-02	--	--	**--**	**2.5E-02**	**--**	**--**
PCB-1221	0	--	1.4E-02	--	--	--	9.8E-02	--	--	--	3.5E-03	--	--	--	2.5E-02	--	--	**--**	**2.5E-02**	**--**	**--**
PCB-1232	0	--	1.4E-02	--	--	--	9.8E-02	--	--	--	3.5E-03	--	--	--	2.5E-02	--	--	**--**	**2.5E-02**	**--**	**--**
PCB-1242	0	--	1.4E-02	--	--	--	9.8E-02	--	--	--	3.5E-03	--	--	--	2.5E-02	--	--	**--**	**2.5E-02**	**--**	**--**
PCB-1248	0	--	1.4E-02	--	--	--	9.8E-02	--	--	--	3.5E-03	--	--	--	2.5E-02	--	--	**--**	**2.5E-02**	**--**	**--**
PCB-1254	0	--	1.4E-02	--	--	--	9.8E-02	--	--	--	3.5E-03	--	--	--	2.5E-02	--	--	**--**	**2.5E-02**	**--**	**--**
PCB-1260	0	--	1.4E-02	--	--	--	9.8E-02	--	--	--	3.5E-03	--	--	--	2.5E-02	--	--	**--**	**2.5E-02**	**--**	**--**
PCB Total[C]	0	--	--	1.7E-03	1.7E-03	--	--	1.9E-01	1.9E-01	--	--	1.7E-04	1.7E-04	--	--	1.9E-02	1.9E-02	**--**	**--**	**1.9E-02**	**1.9E-02**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	2.8E+00	8.2E+01	4.6E-02	4.1E-02	3.1E+02	9.1E+03	1.9E-03	1.5E-03	2.8E-01	8.2E+00	1.2E-02	1.0E-02	3.1E+01	9.1E+02	**1.2E-02**	**1.0E-02**	**3.1E+01**	**9.1E+02**
Phenol	0	--	--	2.1E+04	4.6E+06	--	--	5.0E+05	1.1E+08	--	--	2.1E+03	4.6E+05	--	--	5.0E+04	1.1E+07	**--**	**--**	**5.0E+04**	**1.1E+07**
Pyrene	0	--	--	9.6E+02	1.1E+04	--	--	2.3E+04	2.6E+05	--	--	9.6E+01	1.1E+03	--	--	2.3E+03	2.6E+04	**--**	**--**	**2.3E+03**	**2.6E+04**
Radionuclides (pCi/l except Beta/Photon)	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**	**--**
Gross Alpha Activity	0	--	--	1.5E+01	1.5E+01	--	--	3.6E+02	3.6E+02	--	--	1.5E+00	1.5E+00	--	--	3.6E+01	3.6E+01	**--**	**--**	**3.6E+01**	**3.6E+01**
Beta and Photon Activity (mrem/yr)	0	--	--	4.0E+00	4.0E+00	--	--	9.6E+01	9.6E+01	--	--	4.0E-01	4.0E-01	--	--	9.6E+00	9.6E+00	**--**	**--**	**9.6E+00**	**9.6E+00**
Strontium-90	0	--	--	8.0E+00	8.0E+00	--	--	1.9E+02	1.9E+02	--	--	8.0E-01	8.0E-01	--	--	1.9E+01	1.9E+01	**--**	**--**	**1.9E+01**	**1.9E+01**
Tritium	0	--	--	2.0E+04	2.0E+04	--	--	4.8E+05	4.8E+05	--	--	2.0E+03	2.0E+03	--	--	4.8E+04	4.8E+04	**--**	**--**	**4.8E+04**	**4.8E+04**
Selenium	0	2.0E+01	5.0E+00	1.7E+02	1.1E+04	1.2E+02	3.5E+01	4.1E+03	2.6E+05	5.0E+00	1.3E+00	1.7E+01	1.1E+03	3.0E+01	8.8E+00	4.1E+02	2.6E+04	**3.0E+01**	**8.8E+00**	**4.1E+02**	**2.6E+04**
Silver	0	1.0E+00	--	--	--	6.3E+00	--	--	--	2.6E-01	--	--	--	1.6E+00	--	--	--	**1.6E+00**	**--**	**--**	**--**
Sulfate	0	--	--	2.5E+05	--	--	--	6.0E+06	--	--	--	2.5E+04	--	--	--	6.0E+05	--	**--**	**--**	**6.0E+05**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	1.7E+00	1.1E+02	--	--	1.9E+02	1.2E+04	--	--	1.7E-01	1.1E+01	--	--	1.9E+01	1.2E+03	**--**	**--**	**1.9E+01**	**1.2E+03**
Tetrachloroethylene[C]	0	--	--	8.0E+00	8.9E+01	--	--	8.9E+02	9.9E+03	--	--	8.0E-01	8.9E+00	--	--	8.9E+01	9.9E+02	**--**	**--**	**8.9E+01**	**9.9E+02**
Thallium	0	--	--	1.7E+00	6.3E+00	--	--	4.1E+01	1.5E+02	--	--	1.7E-01	6.3E-01	--	--	4.1E+00	1.5E+01	**--**	**--**	**4.1E+00**	**1.5E+01**
Toluene	0	--	--	6.8E+03	2.0E+05	--	--	1.6E+05	4.8E+06	--	--	6.8E+02	2.0E+04	--	--	1.6E+04	4.8E+05	**--**	**--**	**1.6E+04**	**4.8E+05**
Total dissolved solids	0	--	--	5.0E+05	--	--	--	1.2E+07	--	--	--	5.0E+04	--	--	--	1.2E+06	--	**--**	**--**	**1.2E+06**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	7.3E-03	7.5E-03	4.4E+00	1.4E-03	8.1E-01	8.3E-01	1.8E-01	5.0E-05	7.3E-04	7.5E-04	1.1E+00	3.5E-04	8.1E-02	8.3E-02	**1.1E+00**	**3.5E-04**	**8.1E-02**	**8.3E-02**
Tributyltin	0	4.6E-01	6.3E-02	--	--	2.8E+00	4.4E-01	--	--	1.2E-01	1.6E-02	--	--	6.9E-01	1.1E-01	--	--	**6.9E-01**	**1.1E-01**	**--**	**--**
1,2,4-Trichlorobenzene	0	--	--	2.6E+02	9.4E+02	--	--	6.2E+03	2.3E+04	--	--	2.6E+01	9.4E+01	--	--	6.2E+02	2.3E+03	**--**	**--**	**6.2E+02**	**2.3E+03**
1,1,2-Trichloroethane[C]	0	--	--	6.0E+00	4.2E+02	--	--	6.7E+02	4.7E+04	--	--	6.0E-01	4.2E+01	--	--	6.7E+01	4.7E+03	**--**	**--**	**6.7E+01**	**4.7E+03**
Trichloroethylene [C]	0	--	--	2.7E+01	8.1E+02	--	--	3.0E+03	9.0E+04	--	--	2.7E+00	8.1E+01	--	--	3.0E+02	9.0E+03	**--**	**--**	**3.0E+02**	**9.0E+03**
2,4,6-Trichlorophenol [C]	0	--	--	2.1E+01	6.5E+01	--	--	2.3E+03	7.2E+03	--	--	2.1E+00	6.5E+00	--	--	2.3E+02	7.2E+02	**--**	**--**	**2.3E+02**	**7.2E+02**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	5.0E+01	--	--	--	1.2E+03	--	--	--	5.0E+00	--	--	--	1.2E+02	--	**--**	**--**	**1.2E+02**	**--**
Vinyl Chloride[C]	0	--	--	2.3E-01	6.1E+01	--	--	2.6E+01	6.8E+03	--	--	2.3E-02	6.1E+00	--	--	2.6E+00	6.8E+02	**--**	**--**	**2.6E+00**	**6.8E+02**
Zinc	0	6.5E+01	6.6E+01	9.1E+03	6.9E+04	3.9E+02	4.6E+02	2.2E+05	1.7E+06	1.6E+01	1.6E+01	9.1E+02	6.9E+03	9.8E+01	1.1E+02	2.2E+04	1.7E+05	**9.8E+01**	**1.1E+02**	**2.2E+04**	**1.7E+05**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens,
   Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	3.4E+01
Arsenic	2.4E+01
Barium	4.8E+03
Cadmium	6.9E-01
Chromium III	4.4E+01
Chromium VI	9.6E+00
Copper	4.2E+00
Iron	7.2E+02
Lead	5.9E+00
Manganese	1.2E+02
Mercury	1.2E-01
Nickel	1.2E+01
Selenium	5.3E+00
Silver	6.3E-01
Zinc	3.9E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

DEQ Ambient Station 1AGOO002.38
Monitoring Data

Collection Date / Time	pH	DO	Temperature °C
3/5/03 12:10 PM	8.12	13.22	4.31
3/5/03 12:10 PM	8.12	13.22	4.31
4/14/03 11:50 AM	7.61	10.88	15.99
4/14/03 11:50 AM	7.61	10.88	15.99
6/23/03 10:54 AM	7.36	9.34	17.71
6/23/03 10:54 AM	7.36	9.34	17.71
8/12/03 1:00 PM	6.98	7.66	23.48
10/16/03 12:55 PM	7.08	10.38	13.41
12/8/03 1:00 PM	7.01	14.36	1.77
2/18/04 11:15 AM	7.41	14.45	2.11
4/1/04 12:15 PM	7.62	11.06	9.4
6/9/04 12:00 PM	7.69	9.21	21.7
9/15/04 11:00 AM	7.32	7.93	21.49
1/9/08 11:56 AM	7.6	12.3	7.6
90th Percentile	8.0		21.6

June - November

7.36		17.71
7.36		17.71
6.98		23.48
7.08		13.41
7.69		21.7
7.32		21.49
90th Percentile	7.5	22.6

December - May

8.12		4.31
8.12		4.31
7.61		15.99
7.61		15.99
7.01		1.77
7.41		2.11
7.62		9.4
7.6		7.6
90th Percentile	8.1	16.0

Mixing Zone Predictions for Goose Creek Industrial Park WWTP

Effluent Flow = 0.01 MGD
Stream 7Q10 = 0.06 MGD
Stream 1Q10 = 0.05 MGD
Stream slope = 0.00177 ft/ft
Stream width = 7 ft
Bottom scale = 5
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = .1516 ft
Length = 141.83 ft
Velocity = .102ft/sec
Residence Time = .0161days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = .1381 ft
Length = 153.54 ft
Velocity = .096ft/sec
Residence Time = .4441 hours

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 1Q10 may be used.

8/6/03 1:50:06 PM

Facility = Goose Creek Industrial WWTP (Jun - Nov)
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 107.4
WLAc = 22.69
Q.L. = .2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

9

8/18/03 10:53:25 AM

Facility = Goose Creek Industrial Park WWTP (Dec-May)
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 187.75
WLAc = 50.5
Q.L. = .2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

9

8/21/2008 10:29:58 AM

Facility = Goose Creek Industrial Park WWTP
Chemical = Chlorine
Chronic averaging period = 4
WLAa = 0.029
WLAc = 0.019
Q.L. = .1
# samples/mo. = 28
# samples/wk. = 7

Summary of Statistics:

observations = 1
Expected Value = .2
Variance = .0144
C.V. = 0.6
97th percentile daily values = .486683
97th percentile 4 day average = .332758
97th percentile 30 day average= .241210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 2.77889208970114E-02
Average Weekly limit = 1.69708942596669E-02 0.017 mg/L
Average Monthly LImit = 1.38553660944296E-02 0.014 mg/L

The data are:

0.2

```
*******************************************************************************

                REGIONAL MODELING SYSTEM          VERSION 3.2

           DATA FILE SUMMARY

*******************************************************************************

THE NAME OF THE DATA FILE IS: SUMMGOOS.MOD


THE STREAM NAME IS:    Sycolin Creek
THE RIVER BASIN IS:    Potomac River
THE SECTION NUMBER IS: 9
THE CLASSIFICATION IS: III

STANDARDS VIOLATED (Y/N)     = N
STANDARDS APPROPRIATE (Y/N) = Y

DISCHARGE WITHIN 3 MILES (Y/N) = N


THE DISCHARGE BEING MODELED IS: Goose Creek Industrial Park

PROPOSED LIMITS ARE:
    FLOW  =  .01 MGD
    BOD5  =  12  MG/L
    TKN   =  5   MG/L
    D.O.  =  5 MG/L

THE NUMBER OF SEGMENTS TO BE MODELED =  1

7Q10 WILL BE CALCULATED BY: DRAINAGE AREA COMPARISON
    THE GAUGE NAME IS: Goose Creek near Leesburg VA #01644000
    GAUGE DRAINAGE AREA        =  332  SQ.MI.
    GAUGE 7Q10                 =  1.22797  MGD
    DRAINAGE AREA AT DISCHARGE =  17.3  SQ.MI.

STREAM A DRY DITCH AT DISCHARGE (Y/N) = N
ANTIDEGRADATION APPLIES (Y/N) = N

ALLOCATION DESIGN TEMPERATURE =  25   C
```

SEGMENT INFORMATION

####### SEGMENT # 1 #######

SEGMENT ENDS BECAUSE: THE MODEL ENDS

SEGMENT LENGTH = 1.5 MI

SEGMENT WIDTH = 7 FT
SEGMENT DEPTH = .2 FT
SEGMENT VELOCITY = .5 FT/SEC

DRAINAGE AREA AT SEGMENT START = 17.3 SQ.MI.
DRAINAGE AREA AT SEGMENT END = 364.8 SQ.MI.

ELEVATION AT UPSTREAM END = 210 FT
ELEVATION AT DOWNSTREAM END = 196 FT

THE CROSS SECTION IS: RECTANGULAR
THE CHANNEL IS: MODERATELY MEANDERING

POOLS AND RIFFLES (Y/N) = N

THE BOTTOM TYPE = LARGE ROCK
SLUDGE DEPOSITS = NONE
AQUATIC PLANTS = NONE
ALGAE OBSERVED = NONE
WATER COLORED GREEN (Y/N) = N

****

REGIONAL MODELING SYSTEM Ver 3.2 (OWRM - 9/90)
08-31-1998 11:46:25

REGIONAL MODELING SYSTEM VERSION 3.2

MODEL SIMULATION FOR THE Goose Creek Industrial Park DISCHARGE

TO Sycolin Creek

COMMENT: June - November, 7Q10 = 0.433,no antidegradation

THE SIMULATION STARTS AT THE Goose Creek Industrial Park DISCHARGE

********** PROPOSED PERMIT LIMITS **********

FLOW = .01 MGD cBOD5 = 12 Mg/L TKN = 5 Mg/L D.O. = 5 Mg/L

**** THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 0.081 Mg/L ****

THE SECTION BEING MODELED IS 1 SEGMENT LONG
RESULTS WILL BE GIVEN AT 0.1 MILE INTERVALS

********** BACKGROUND CONDITIONS **********

THE 7Q10 STREAM FLOW AT THE DISCHARGE IS 0.06399 MGD
THE DISSOLVED OXYGEN OF THE STREAM IS 7.448 Mg/L
THE BACKGROUND cBODu OF THE STREAM IS 5 Mg/L
THE BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

********** MODEL PARAMETERS **********

SEG.	LEN. Mi	VEL. F/S	K2 1/D	K1 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. C	DO-SAT Mg/L
1	1.50	0.311	5.600	1.000	0.450	0.000	203.00	25.00	8.276

(The K Rates shown are at 20 C ... the model corrects them for temperature.)

********** RESPONSE FOR [illegible]ENT 1 **********

TOTAL STREAMFLOW = 0.0740 MGD
(Including Discharge)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	0.000	7.117	8.379	1.171
0.100	0.100	7.046	8.174	1.155
0.200	0.200	6.987	7.974	1.140
0.300	0.300	6.941	7.779	1.126
0.400	0.400	6.904	7.589	1.111
0.500	0.500	6.876	7.403	1.097
0.600	0.600	6.856	7.222	1.083
0.700	0.700	6.842	7.046	1.069
0.800	0.800	6.835	6.873	1.055
0.900	0.900	6.832	6.705	1.041
1.000	1.000	6.834	6.541	1.028
1.100	1.100	6.839	6.381	1.014
1.200	1.200	6.848	6.225	1.001
1.300	1.300	6.859	6.073	0.988
1.400	1.400	6.873	5.925	0.976
1.500	1.500	6.888	5.780	0.963

****

REGIONAL MODELING SYSTEM Ver 3.2 (OWRM - 9/90)
08-31-1998 11:46:18

DATA FILE = SUMMGOOS.MOD

****

REGIONAL MODELING SYSTEM VERSION 3.2

DATA FILE SUMMARY

****

THE NAME OF THE DATA FILE IS: WINTER.MOD

THE STREAM NAME IS: Sycolin Creek
THE RIVER BASIN IS: Potomac River
THE SECTION NUMBER IS: 9
THE CLASSIFICATION IS: III

STANDARDS VIOLATED (Y/N) = N
STANDARDS APPROPRIATE (Y/N) = Y

DISCHARGE WITHIN 3 MILES (Y/N) = N

THE DISCHARGE BEING MODELED IS: Goose Creek Industrial Park

PROPOSED LIMITS ARE:
FLOW = .01 MGD
BOD5 = 30 MG/L
TKN = 30 MG/L
D.O. = 5 MG/L

THE NUMBER OF SEGMENTS TO BE MODELED = 1

7Q10 WILL BE CALCULATED BY: DRAINAGE AREA COMPARISON
THE GAUGE NAME IS: Goose Creek near Leesburg, #01644000
GAUGE DRAINAGE AREA = 332 SQ.MI.
GAUGE 7Q10 = 14.8649 MGD
DRAINAGE AREA AT DISCHARGE = 17.3 SQ.MI.

STREAM A DRY DITCH AT DISCHARGE (Y/N) = N
ANTIDEGRADATION APPLIES (Y/N) = N

ALLOCATION DESIGN TEMPERATURE = 15 C

SEGMENT INFORMATION

####### SEGMENT # 1 #######

SEGMENT ENDS BECAUSE: THE MODEL ENDS

SEGMENT LENGTH = 1.5 MI

SEGMENT WIDTH = 9 FT
SEGMENT DEPTH = .3 FT
SEGMENT VELOCITY = .7 FT/SEC

DRAINAGE AREA AT SEGMENT START = 17.3 SQ.MI.
DRAINAGE AREA AT SEGMENT END = 364.8 SQ.MI.

ELEVATION AT UPSTREAM END = 210 FT
ELEVATION AT DOWNSTREAM END = 196 FT

THE CROSS SECTION IS: RECTANGULAR
THE CHANNEL IS: MODERATELY MEANDERING

POOLS AND RIFFLES (Y/N) = N

THE BOTTOM TYPE = LARGE ROCK
SLUDGE DEPOSITS = NONE
AQUATIC PLANTS = NONE
ALGAE OBSERVED = NONE
WATER COLORED GREEN (Y/N) = N

****

****

REGIONAL MODELING SYSTEM VERSION 3.2

****

MODEL SIMULATION FOR THE Goose Creek Industrial Park DISCHARGE

TO Sycolin Creek

COMMENT: Dec - May, 7Q10 = 1.293 MGD, no antidegradation

THE SIMULATION STARTS AT THE Goose Creek Industrial Park DISCHARGE

********** PROPOSED PERMIT LIMITS **********

FLOW = .01 MGD cBOD5 = 30 Mg/L TKN = 30 Mg/L D.O. = 5 Mg/L

**** THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 0.863 Mg/L ****

THE SECTION BEING MODELED IS 1 SEGMENT LONG
RESULTS WILL BE GIVEN AT 0.1 MILE INTERVALS

********** BACKGROUND CONDITIONS **********

THE 7Q10 STREAM FLOW AT THE DISCHARGE IS 0.77459 MGD
THE DISSOLVED OXYGEN OF THE STREAM IS 8.990 Mg/L
THE BACKGROUND cBODu OF THE STREAM IS 5 Mg/L
THE BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

********** MODEL PARAMETERS **********

SEG.	LEN. Mi	VEL. F/S	K2 1/D	K1 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. C	DO-SAT Mg/L
1	1.50	0.429	5.600	1.000	0.450	0.000	203.00	15.00	9.989

(The K Rates shown are at 20 C ... the model corrects them for temperature.)

********** RESPONSE FOR [illegible]ENT 1 **********

TOTAL STREAMFLOW = 0.7846 MGD
(Including Discharge)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	0.000	8.939	5.892	1.490
0.100	0.100	8.941	5.826	1.484
0.200	0.200	8.943	5.760	1.477
0.300	0.300	8.946	5.695	1.471
0.400	0.400	8.949	5.631	1.464
0.500	0.500	8.953	5.568	1.458
0.600	0.600	8.957	5.505	1.452
0.700	0.700	8.962	5.443	1.445
0.800	0.800	8.967	5.382	1.439
0.900	0.900	8.972	5.321	1.433
1.000	1.000	8.978	5.261	1.426
1.100	1.100	8.984	5.202	1.420
1.200	1.200	8.990	5.143	1.414
1.300	1.300	8.990	5.086	1.408
1.400	1.400	8.990	5.028	1.402
1.500	1.500	8.990	5.000	1.396

****

REGIONAL MODELING SYSTEM Ver 3.2 (OWRM - 9/90)
08-31-1998 11:58:06

DATA FILE = WINTER.MOD

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Loudoun County, Virginia.

PUBLIC COMMENT PERIOD: November 6, 2008 to 5:00 p.m. on December 8, 2008

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Loudoun County Sanitation Authority
P.O. Box 4000, Ashburn, VA 20146
VA0080993

NAME AND ADDRESS OF FACILITY: Goose Creek Industrial Park WWTP
42217 Cochran Mill Road, Leesburg, VA 20175

PROJECT DESCRIPTION: Loudoun County Sanitation Authority has applied for a reissuance of a permit for the public Goose Creek Industrial Park WWTP. The applicant proposes to release treated sewage wastewaters from an industrial park at a rate of 0.010 million gallons per day into a water body. Sludge from the treatment process will be transported to Broad Run Water Reclamation Facility (VA0091383) for further treatment and disposal. The facility proposes to release the treated sewage in the Sycolin Creek in Loudoun County in the Potomac River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, cBOD, BOD, Chlorine, TSS, DO, TKN and *E. coli*.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment.
Name: Douglas Frasier
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3873 E-mail: ddfrasier@deq.virginia.gov Fax: (703) 583-3841

Revised 2/2003

State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Goose Creek Industrial Park WWTP
NPDES Permit Number:	VA0080993
Permit Writer Name:	Douglas Frasier
Date:	21 August 2008

Major [ ] **Minor** [X] **Industrial** [ ] **Municipal** [X]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?	X		
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	X		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?	X		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs
(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	**Yes**	**No**	**N/A**
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	**Yes**	**No**	**N/A**
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)	**Yes**	**No**	**N/A**
1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	**Yes**	**No**	**N/A**
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?	X		
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	X		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	X		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?		X	
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?			X

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?			X

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?			X
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?			X
a. Does the permit require implementation of the "Nine Minimum Controls"?			X
b. Does the permit require development and implementation of a "Long Term Control Plan"?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

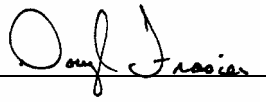
List of Standard Conditions – 40 CFR 122.41

Duty to comply	Property rights	Reporting Requirements
Duty to reapply	Duty to provide information	Planned change
Need to halt or reduce activity not a defense	Inspections and entry	Anticipated noncompliance
	Monitoring and records	Transfers
Duty to mitigate	Signatory requirement	Monitoring reports
Proper O & M	Bypass	Compliance schedules
Permit actions	Upset	24-Hour reporting
		Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Douglas Frasier
Title	Environmental Specialist II
Signature	
Date	21 August 2008